Section II-iii-N

Highly Erodible Land

General

The basis for identifying highly erodible land is the erodibility index of a soil map unit. The erodibility index of a soil is determined by dividing the potential erodibility for each soil by the soil loss tolerance (T) value established for the soil. The T value represents the maximum annual rate of soil erosion that could take place without causing a decline in long-term productivity. A soil map unit with an erodibility index of 8 or more is a highly erodible soil map unit.

Water Erosion

Potential erodibility for sheet and rill erosion is estimated by multiplying the following factors of the Universal Soil Loss Equation (USLE):

1. Rainfall and runoff factor (R)

2. Susceptibility of the soil to water erosion (K)

3. Combined effects of slope length and steepness (LS)

The erodibility index for sheet and rill erosion is represented by the formula RKLS/T. A soil map unit is highly erodible if the LS factor for the shortest length and minumum percent of slope is used and the RKLS/T value equals or exceeds 8.

A soil map unit is potentially highly erodible if: (1) the RKLS/T value using the minimum LS factor is less than 8 and (2) the RKLS/T value using the maximum LS factor is equal to or greater than 8.

Wind Erosion

Potential erodibilty from wind erosion is estimated by multiplying the following factors of the Wind Erosion Equation (WEQ).

1. Climatic characterization of windspeed and surface soil moisture (C)

2. The susceptibility of the soil to wind erosion (I)

The erodibility index for wind erosion is represented by the formula CI/T. A soil map unit is highly erodible if the CI/T value equals or exceeds 8.

Highly Erodible Soils

When surface vegetation is removed from large areas of land, soil erosion often results. Sediment, the result of erosion, has a number of adverse effects as a pollutant. In suspension it reduces the amount of sunlight available to aquatic plants, covers fish spawning areas and food supplies and clogs gills of fish. Phosphorus moves into receiving waters attached to soil particles. Excessive quantities can cause algae blooms. Sediment fills drainage ditches, road ditches and stream channels and shortens the life of reservoirs.

Highly erodible soils are those soils that have a potential to erode at a rate far greater than what is considered tolerable soil loss. The potential erodibility of a soil takes into consideration a) rainfall and runoff, b) the susceptibility of the soil to erosion and c) the combined effects of slope length and steepness. A highly erodible soil has a potential erodibility that would cause a considerable decline in long term productivity of that soil as well as possible negative effects on water quality.

HIGHLY ERODIBLE SOILS IN PENOBSCOT COUNTY

The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. This list of HEL soils is a frozen list as of 1987)

Publication Symbol	Map Unit Name
AgD	ALLAGASH FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES
BaD	BANGOR SILT LOAM, 15 TO 25 PERCENT SLOPES
BmD	BANGOR SILT LOAM, MODERATELY DEEP, 15 TO 35 PERCENT SLOPES
BnD	BANGOR VERY STONY SILT LOAM, 15 TO 25 PERCENT SLOPES
CaE	CANAAN EXTREMELY ROCKY SANDY LOAM, 15 TO 45 PERCENT SLOPES
CcE	COILTON COBBLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES
CnE	COLTON GRAVELLY SANDY LOAM, DARK MATERIALS, 25 TO 45 PERCENT SLOPES
CsD	COLTON LOAMY FINE SAND, DARK MATERIALS, 15 TO 25 PERCENT SLOPES
HvD	HOWLAND VERY STONY LOAM, 15 TO 25 PERCENT SLOPES
PgD	PLAISTED GRAVELLY LOAM, 15 TO 25 PERCENT SLOPES
PgE	PLAISTED GRAVELLY LOAM, 25 TO 45 PERCENT SLOPES
PrE	PLAISTED VERY STONY LOAM, 15 TO 45 PERCENT SLOPES
RkD	ROCKLAND, CANAAN MATERIAL, STRONGLY SLOPING,
RmD	ROCKLAND, THORNDIKE MATERIAL, STRONGLY SLOPING
SeD	STETSON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES
SfE	STETSON-SUFFIELD COMPLEX, 15 TO 45 PERCENT SLOPES
SuD	SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES
SuD2	SUFFIELD SILT LOAM, 15 TO 25 PERCENT SLOPES, ERODED
SuE	SUFFIELD SILT LOAM, 25 TO 45 PERCENT SLOPES
SvD	SUFFIELD VERY FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES
ThD	THORNDIKE SHALY SILT LOAM, 15 TO 25 PERCENT SLOPES
ThE	THORNDIKE SHALY SILT LOAM, 25 TO 45 PERCENT SLOPES
TvD	THORNDIKE VERY STONY SILT LOAM, 15 TO 35 PERCENT SLOPES

USDA-Natural Resource Conservation Service – 2002